

IN THE CLAIMS:

Please cancel claims 23-41 and 44 without prejudice.

Please amend the claims as follows:

42. (Amended) A method of determining a compound which alters at least one property of an acetylcholine receptor comprising a polypeptide encoded by a nucleic acid having a sequence selected from the group consisting of SEQ ID NO: 1, subsequences of SEQ ID NO: 1 which are at least 14 base pairs in length, sequences which hybridize with SEQ ID NO: 1, sequences which have at least 70% identity to the sequence between position 43 and position 1368 of SEQ ID NO: 1, sequences which are complementary to SEQ ID NO: 1, and sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as do the sequences defined above, or alters at least one property of a polypeptide exerting the biological function of an acetylcholine receptor β subunit and comprising an amino acid sequence having at least 40% identity to SEQ ID NO: 2, the compound useful for crop protection and/or pharmaceutical treatment of humans,

the method comprising:

culturing in the presence of the at least one compound a host cell stably transfected or transformed with a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NO: 1, subsequences of SEQ ID NO: 1 which are at least 14 base pairs in length, sequences which hybridize with SEQ ID NO: 1, sequences which have at least 70% identity to the sequence between position 43 and position 1368 of SEQ ID NO: 1, sequences which are complementary to SEQ ID NO: 1, and sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as do the sequences defined above or a vector comprising an isolated and purified nucleic acid molecule as defined above, and

detecting the at least one altered property of the receptor.

43. (Amended) A method of determining a compound specifically binding to an acetylcholine receptor comprising a polypeptide encoded by a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NO: 1, subsequences of SEQ ID NO: 1 which are at least 14 base pairs in length, sequences which hybridize with SEQ ID NO: 1, sequences which have at least 70% identity to the sequence between position 43 and position 1368 of SEQ ID NO: 1, sequences which are complementary to SEQ ID NO: 1, and sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as do the sequences defined above, or a polypeptide exerting the biological function of an acetylcholine receptor β subunit and comprising an amino acid sequence having at least 40% identity to SEQ ID NO:2,

the method comprising:

exposing a host cell stably transfected or transformed with a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NO: 1, subsequences of SEQ ID NO: 1 which are at least 14 base pairs in length, sequences which hybridize with SEQ ID NO: 1, sequences which have at least 70% identity to the sequence between position 43 and position 1368 of SEQ ID NO: 1, sequences which are complementary to SEQ ID NO: 1, and sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as do the sequences defined above or a vector comprising an isolated and purified nucleic acid molecule as defined above,

or

exposing a polypeptide encoded by a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NO: 1, subsequences of SEQ ID NO: 1 which are at least 14 base pairs in length, sequences which hybridize with SEQ ID NO: 1, sequences which have at least 70% identity to the sequence between position 43 and position 1368 of SEQ ID NO: 1, sequences which are complementary to SEQ ID NO: 1, and sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as

do the sequences defined above or a polypeptide exerting the biological function of an acetylcholine receptor β subunit and comprising an amino acid sequence having at least 40% identity to SEQ ID NO: 2,

or

exposing an acetylcholine receptor comprising a polypeptide encoded by a nucleic acid comprising a sequence selected from the group consisting of SEQ ID NO: 1, subsequences of SEQ ID NO: 1 which are at least 14 base pairs in length, sequences which hybridize with SEQ ID NO: 1, sequences which have at least 70% identity to the sequence between position 43 and position 1368 of SEQ ID NO: 1, sequences which are complementary to SEQ ID NO: 1, and sequences which, owing to the degeneracy of the genetic code, encode the same amino acid sequence as do the sequences defined above or an acetylcholine receptor comprising a polypeptide exerting the biological function of an acetylcholine receptor β subunit and comprising an amino acid sequence having at least 40% identity to SEQ ID NO: 2,

to at least one compound under at least one condition permitting the interaction of the at least one compound with the host cell, the polypeptide or the receptor, and

identifying the compound specifically binding to the receptor.

Please add the following claim:

--45. The method of Claim 42, wherein at least one property comprises conductivity.--